

In the Abstract

Methods of forming capacitors and resultant capacitor structures are described. In one embodiment, a capacitor storage node layer is formed over a substrate and has an uppermost rim defining an opening into an interior volume. At least a portion of the rim is capped by forming a material which is different from the capacitor storage node layer over the rim portion. After the rim is capped, a capacitor dielectric region and a cell electrode layer are formed over the storage node layer. ~~In another embodiment, a capacitor storage node layer is formed within a container which is received within an insulative material. A capacitor storage node layer is formed within the container and has an outer surface. A layer of material is formed within less than the entire capacitor container and covers less than the entire capacitor storage node layer outer surface. The layer of material comprises a material which is different from the insulative material within which the capacitor container is formed. After the capacitor storage node layer and the layer of material are formed, a capacitor dielectric functioning region is formed which is discrete from the layer of material and operably proximate at least a portion of the capacitor storage node layer outer surface. A cell electrode layer is formed over the dielectric functioning region and the layer of material.~~